

**LTG Roy Beauchamp**  
Deputy Commanding General

# U.S. Army Materiel Command

**Munitions Summit:**

***Ammunition  
Readiness ... Another View***

**13 February 2002**



# The Litmus Test for Successful Ammunition Support

*FM 9-6 “Munitions Support in Theater of Operations” says that  
“The Object of the munitions distribution system is  
to provide munitions at the right  
time, place and quantity  
to ensure success of an operation.”*

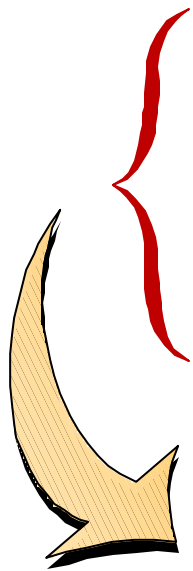
**HOW?**



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# Agenda



★ *The Production Base*

★ *The Inventory*

★ *Requirements*

★ *ASR*

★ *Summary*



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# Size and Capability of the Production Base

## *Some Myths and Realities . . .*



### *Myth . . .*

- In WWII they were able to increase production overnight*
- A dollar today sees a round today*
- Producing Ammo is simple*

### *Reality . . .*

- PAA Funding*

**\$1.2B**



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# Industrial Mobilization Reality

*Myth vs Reality: Dec '41 Decisions ➡ Execution in '42*

- \* *1938 - Great Powers abrogate Naval Limitations Treaty - US begins planning for Pacific War . 130+ munitions production facilities authorized*
- \* *1939 - site surveys begin*
- \* *1940 - some facilities under construction - additional impetus from Lend-Lease Act*
- \* *1941 - first wave of facilities complete construction- in production before Dec 7, 1941*
- \* *1942 - 1944 additional facilities constructed*

*Bottom line - munitions production facilities were in planning 3 years before outbreak of war*



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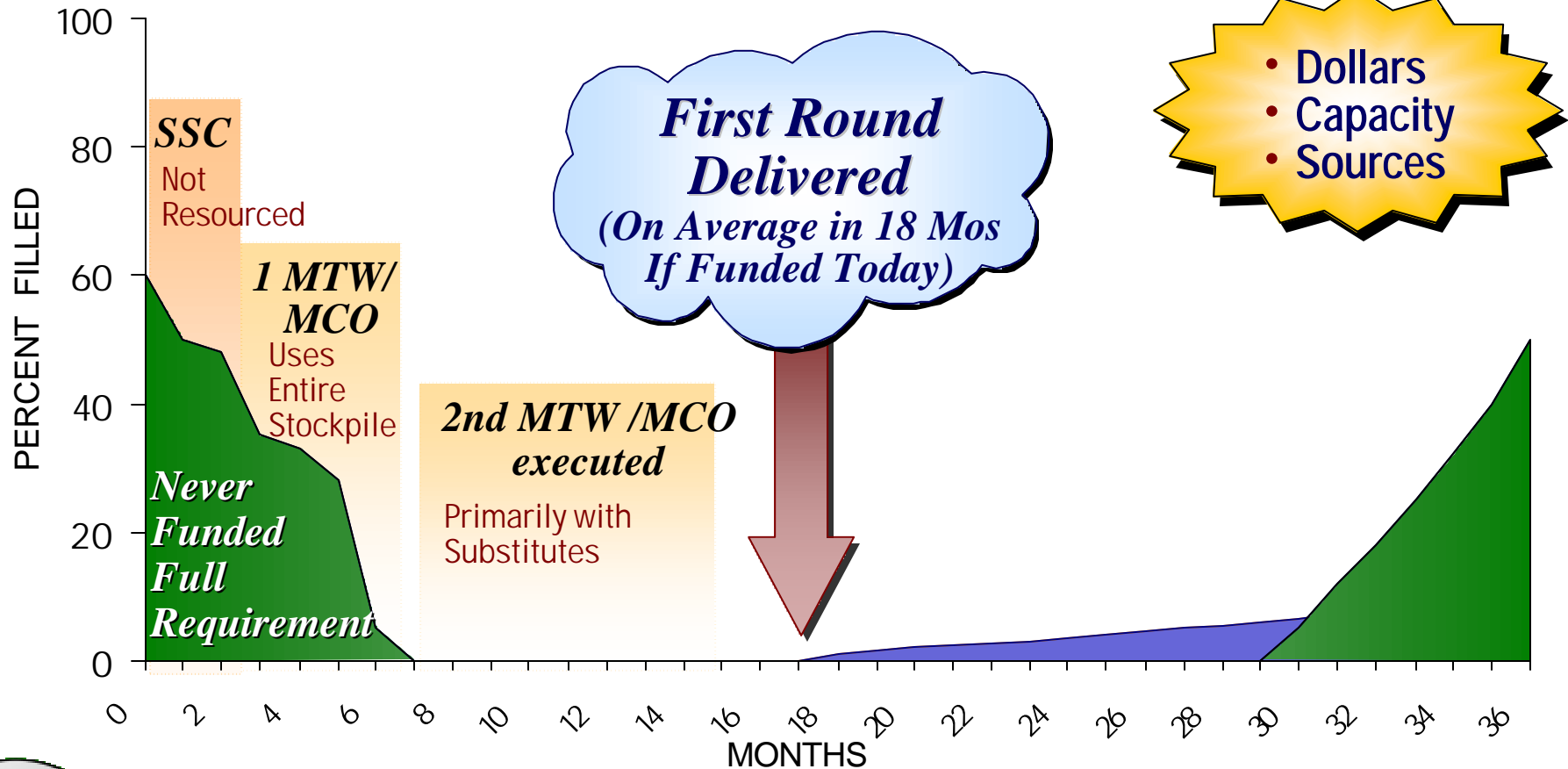
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# Ammunition Capability

## Today's Reality

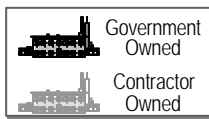
### (Fielded Munitions)

(Cold Start - Not Presently in Production)



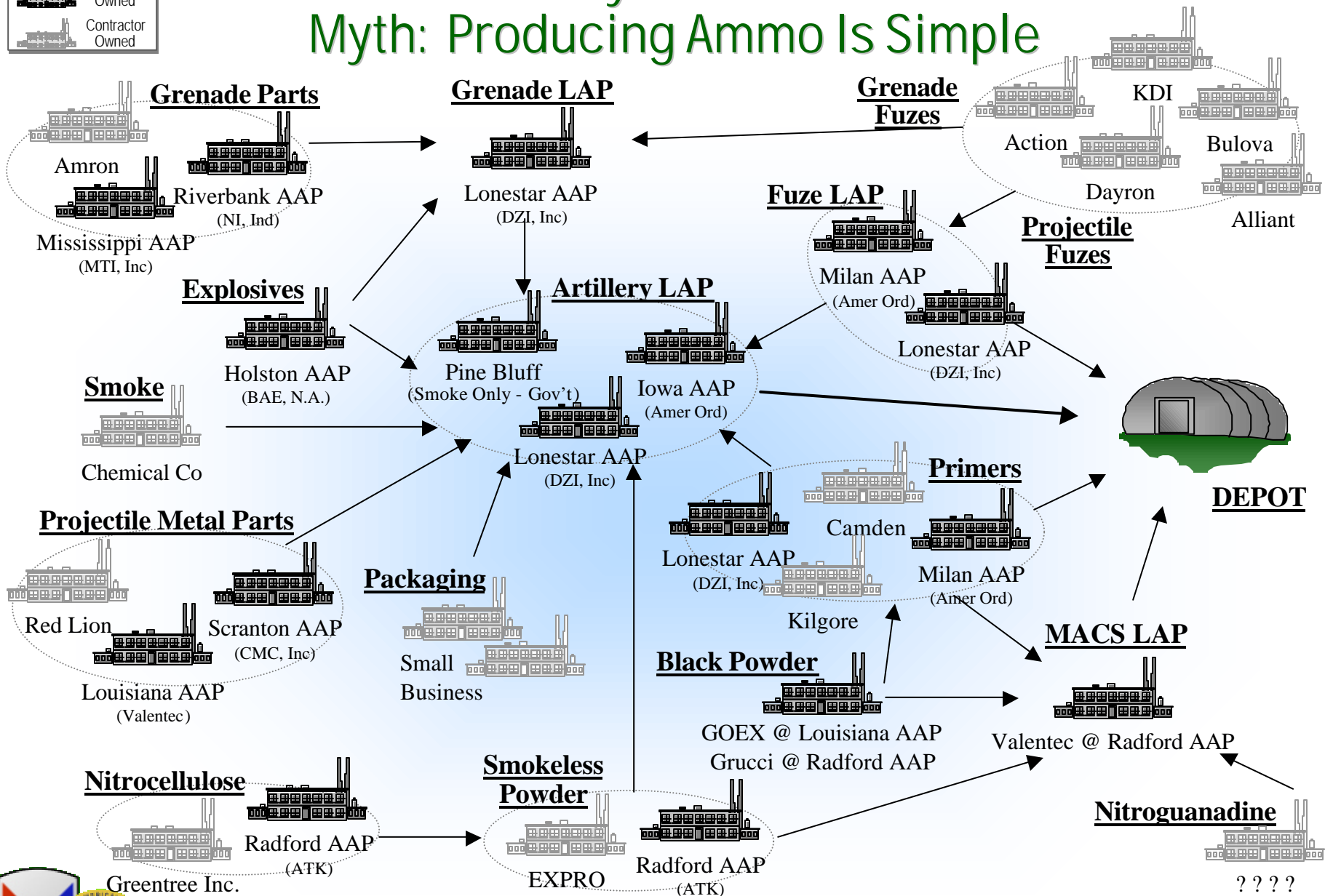
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# Artillery Ammo Base

## Myth: Producing Ammo Is Simple



*Lower Tier Suppliers Pace the Whole Convoy*

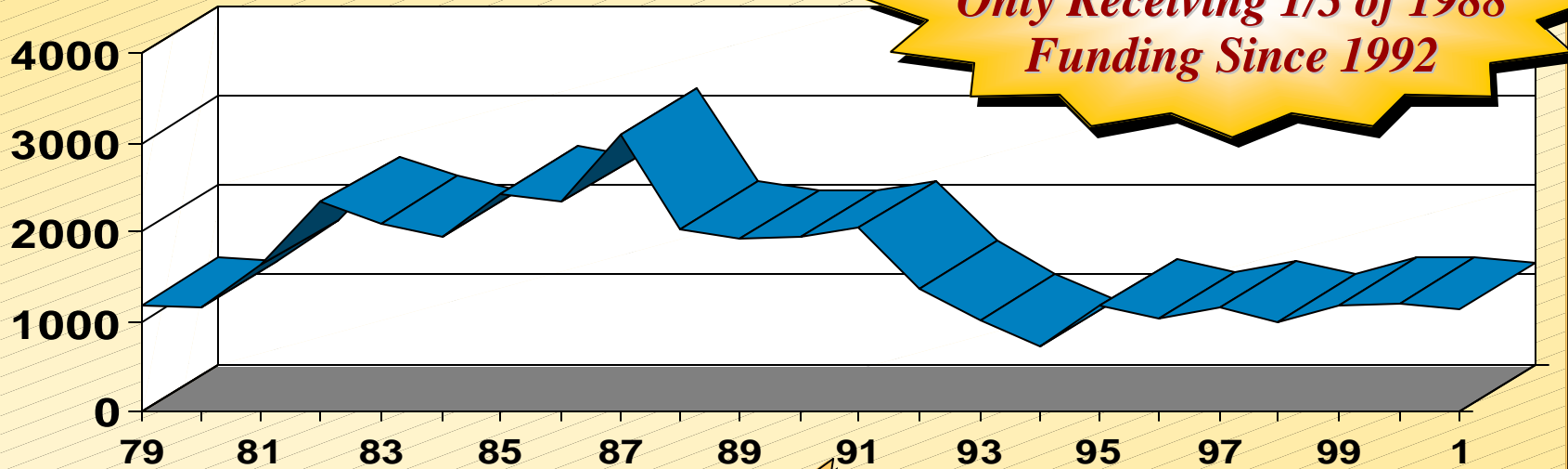
# PAA - Funding Profile

*NOT Meeting  
Warfighter  
Requirements*

## PAA Historical Trend (\$M)

**REALITY:**

*Only Receiving 1/3 of 1988  
Funding Since 1992*



*95% Goes to  
Civilian Contractors*

As of 07/01

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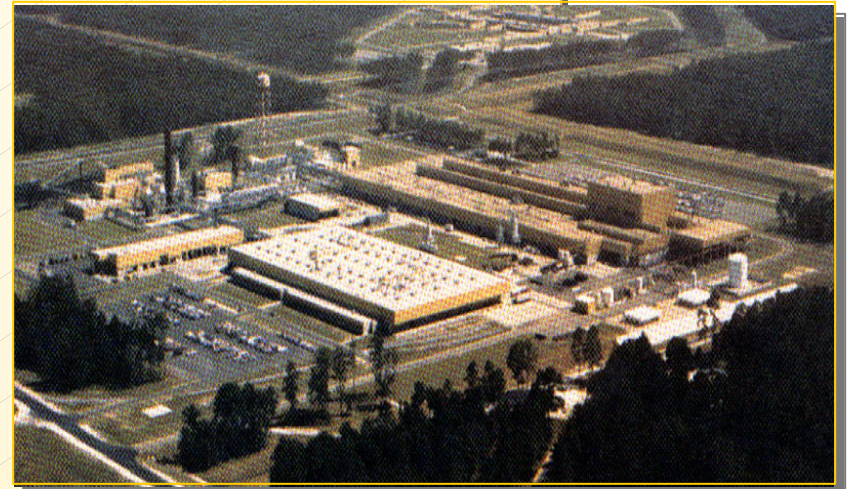
# Just How Big IS the Production Base ?

## *14 Government Owned Facilities With:*

- 351,00 Acres
- 302,000 Pieces of Equipment
- 73 Production Lines
- 7,000 Production Personnel

## *69 Contractor Facilities*

## *11 Contractor Facilities w/Government Owned Equipment*



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# Where Is the Organic Ammunition Base ?



**526K to 351K acres**  
**483K to 302K pieces**  
**of equipment**

- *Defense Production*  
*Occurring at ALL Plants*
- *Ammo Production*  
*Occurring at 13 of 14*  
*Plants*

IOWA, LONE STAR, MILAN	- LAP
RADFORD	- PROPELLANT
HOLSTON	- EXPLOSIVE
PINE BLUFF	- SMOKE
LAKE CITY	- SMALL ARMS
<b>McALESTER*</b>	<b>- BOMB</b>
CRANE	- NAVY GUN & PYRO

LOUISIANA	- PROJECTILE
RIVERBANK	- CTG CASES
MISSISSIPPI	- GRENADES
SCRANTON	- LARGE CAL
KANSAS	- SUBMUNITION

***\*Key role in support of Balkan and Afghanistan Operations***

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# What Is In Our Current Ammunition Inventory ?

***Over 972 DODICS  
in Inventory***

***Limited Warm  
Base***

***Average Around  
120 DODICS a  
Year Bought  
Between 99-02***

***Current Capacity for Producing 171 DODICS  
Which Include:***

## ***Large Caliber***

- Artillery
- Bombs
- Tank
- Mortars

## ***Medium Caliber***

- Cannon
  - 20mm
  - 25mm
  - 30mm
  - 40mm

## ***Small Caliber***

- 5.56
- 7.62
- 50 cal

## ***Other***

- Demo
- Mines
- Fuzes
- Prop Chgs
- Pyrotechnics
- Rockets
- Grenades

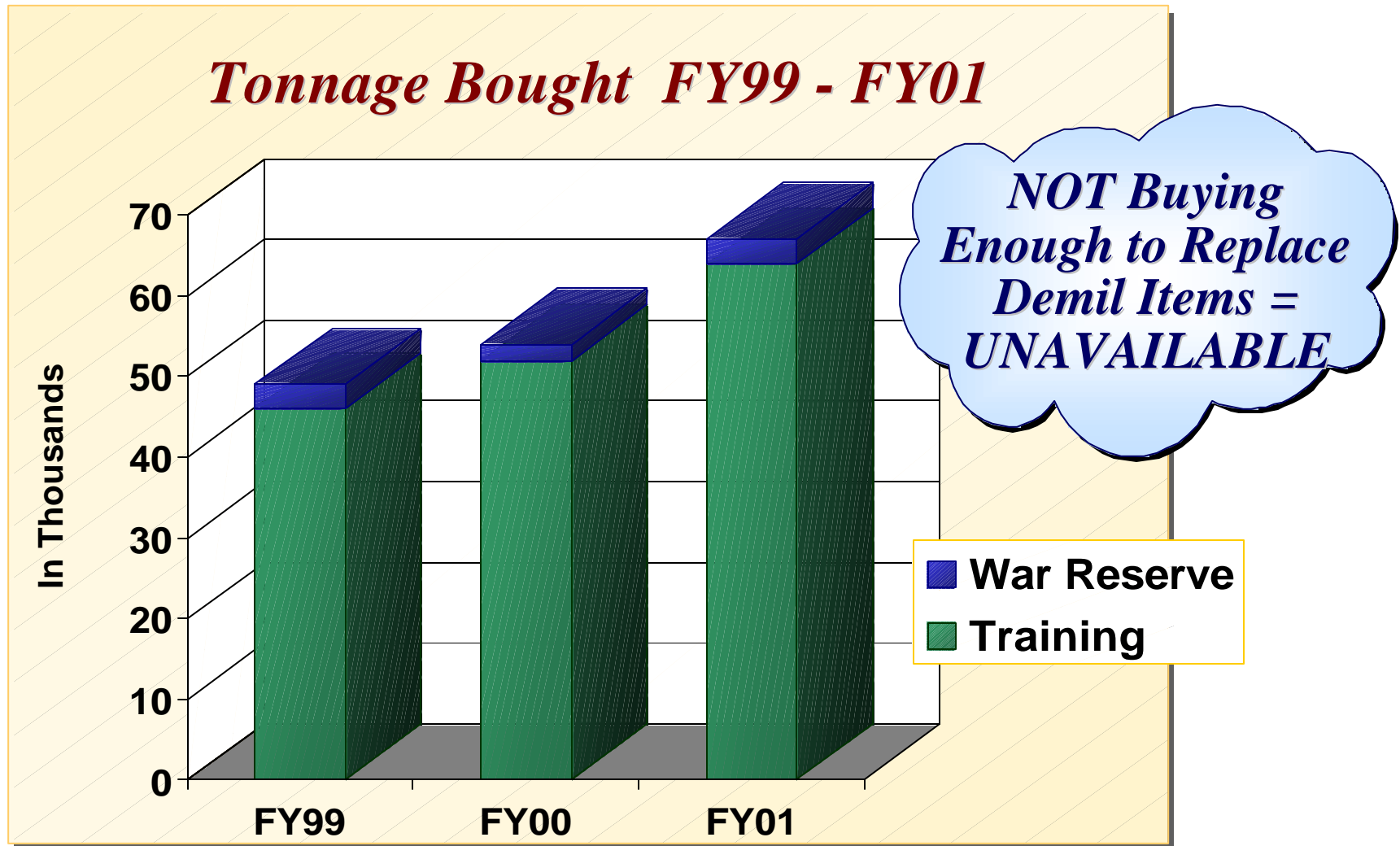
**2.7M S/T      \$23B**



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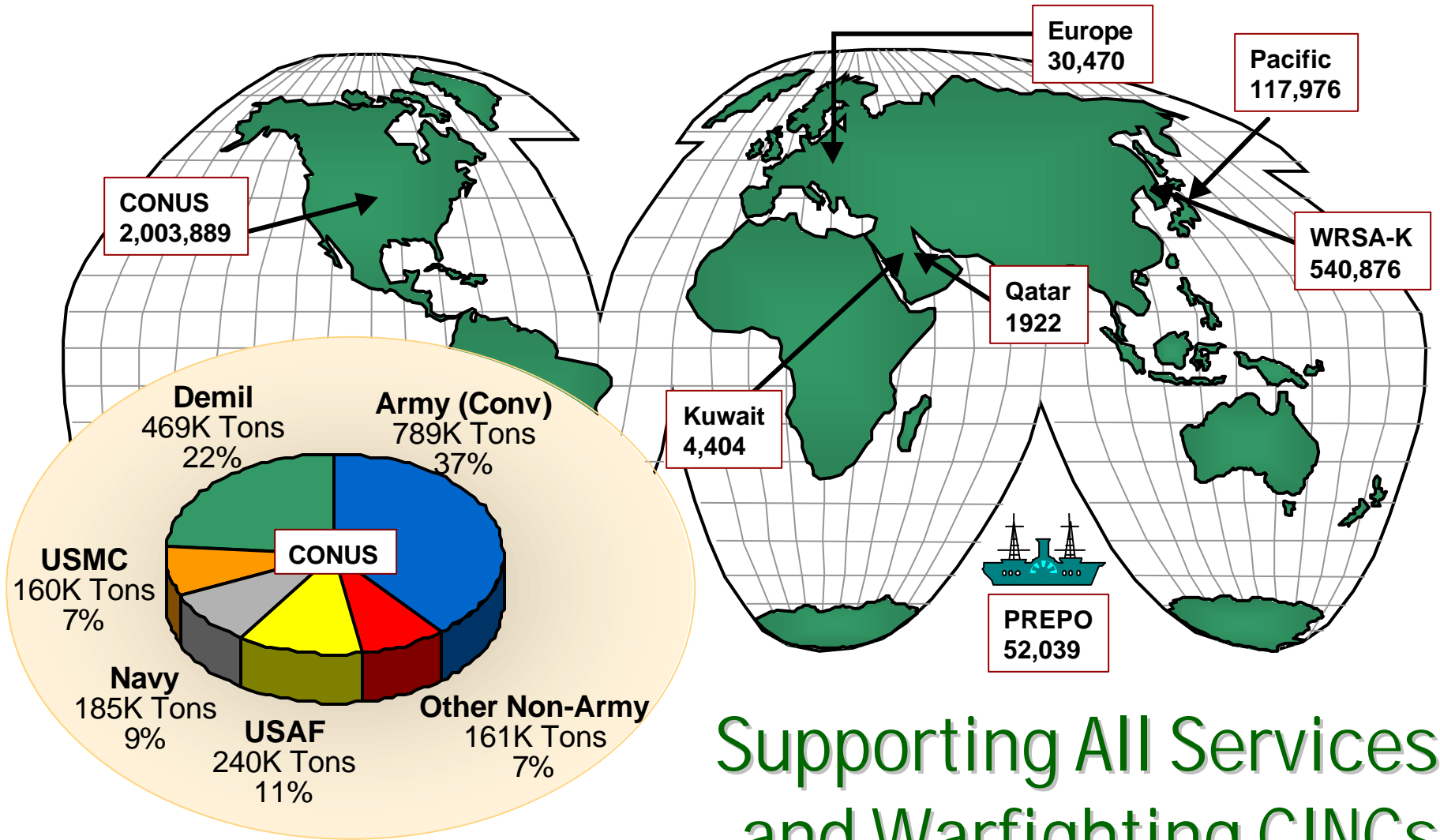
# Let's Talk Ammunition In Terms of Tonnage



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# Just Where Is That Tonnage ?



## Supporting All Services and Warfighting CINCs

Sources: Conventional Ammunition: AMC LG Mar 00

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# How Do We Determine What to Buy

## *... Requirements Drive the Train ...*

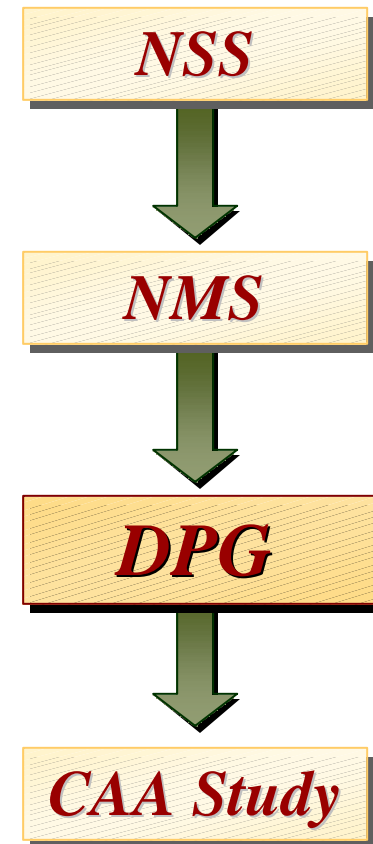
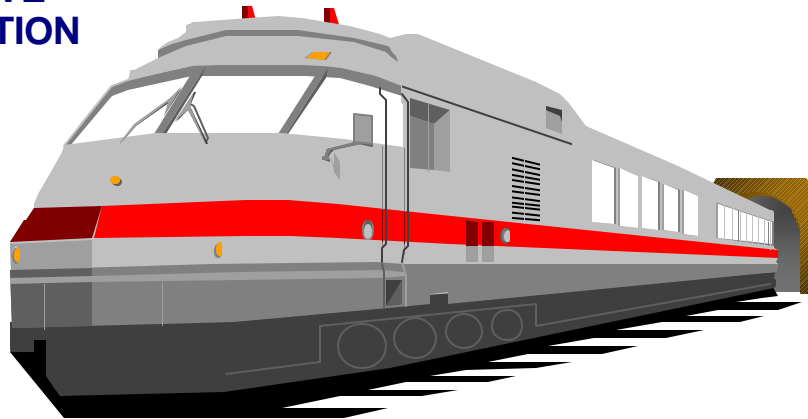
### *Requirements Development*

#### NATIONAL MILITARY STRATEGY

- DRIVES: Center for Army Analysis, (CAA)
- CAA PRODUCES QWARM
- STRAC

### *Requirements Categories*

- WAR RESERVE
- MODERNIZATION
- TRAINING



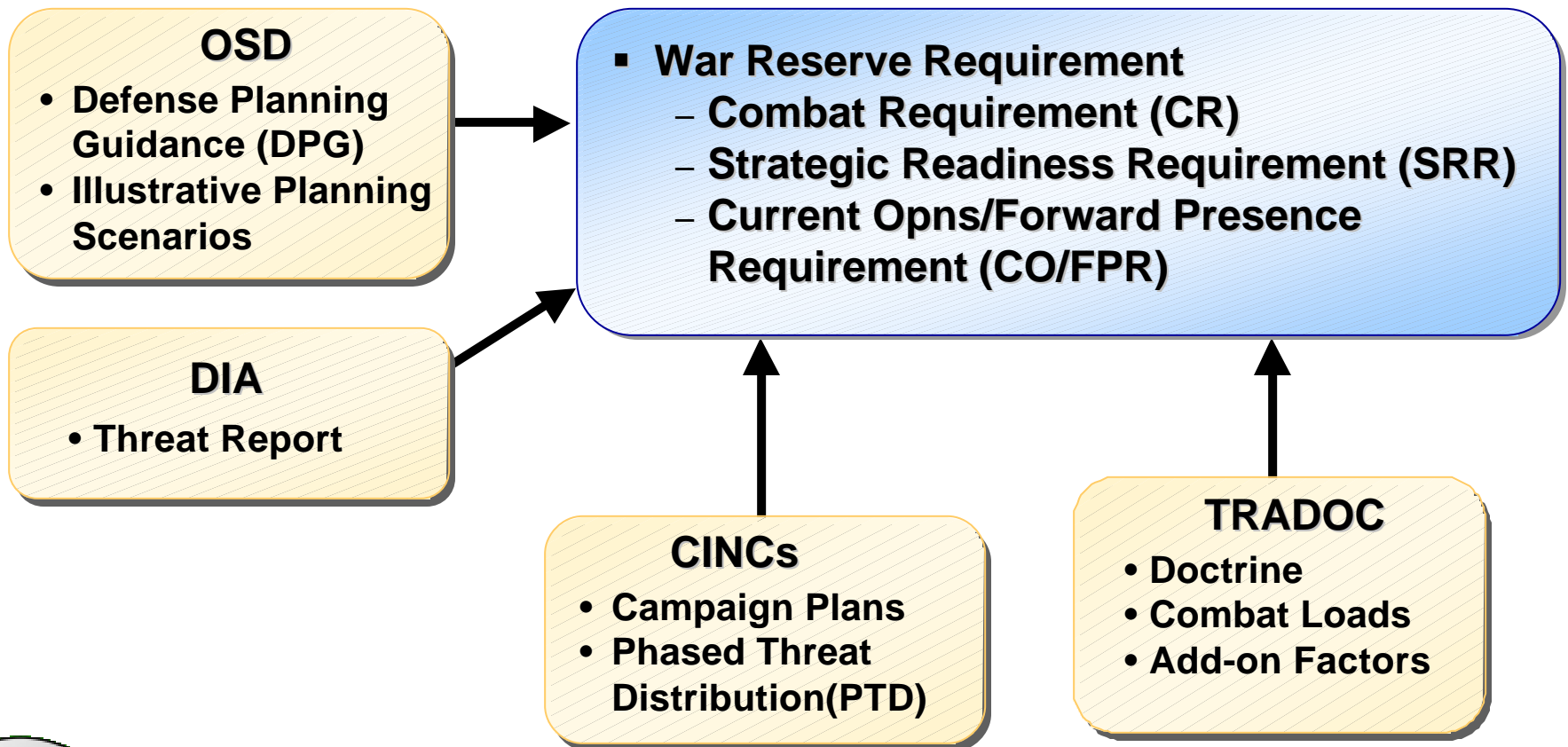
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# The Capability Based Munitions Requirements Process

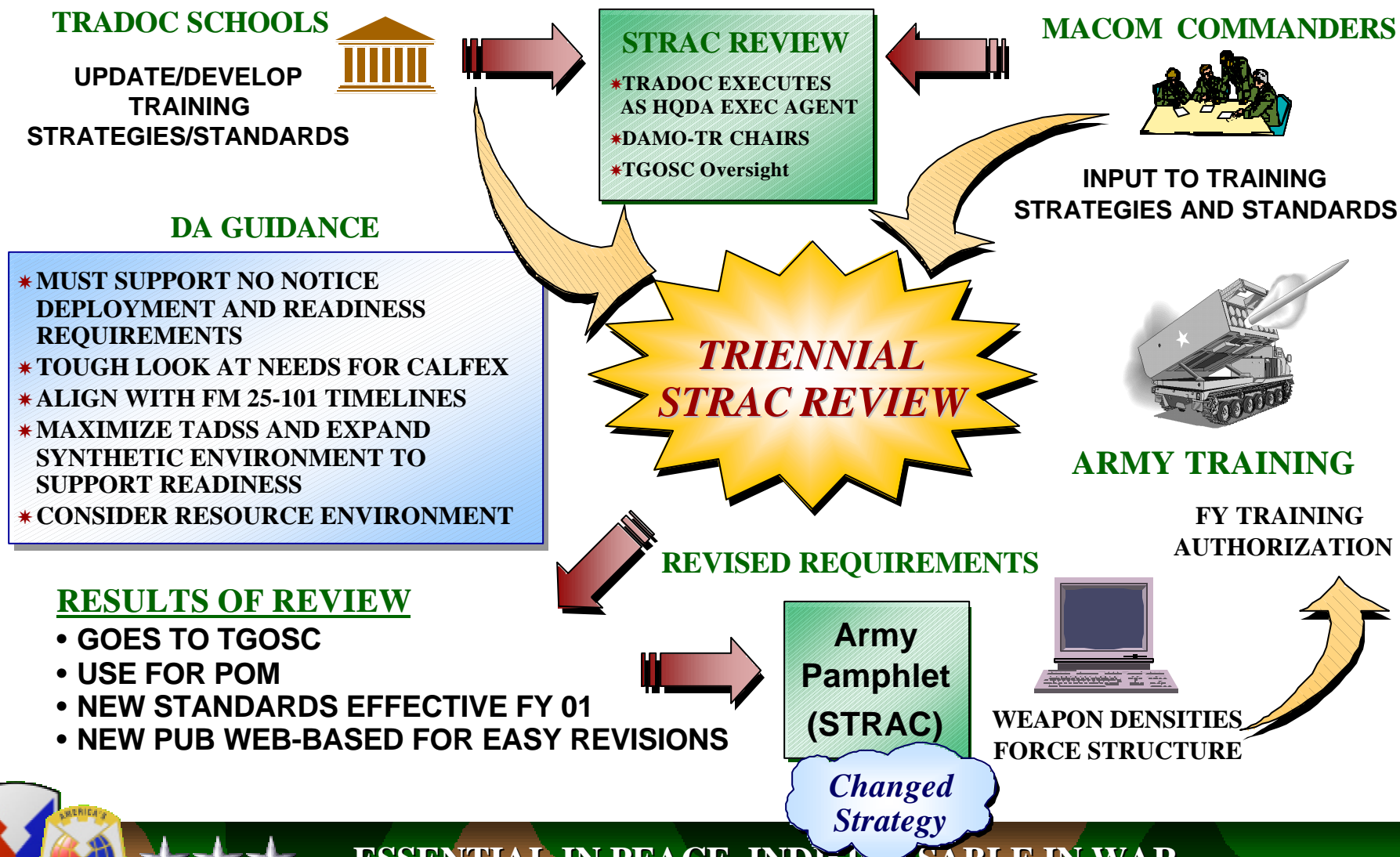
***QWARRM – War Reserve Requirement Determines What the Army Buys in It's Budget***



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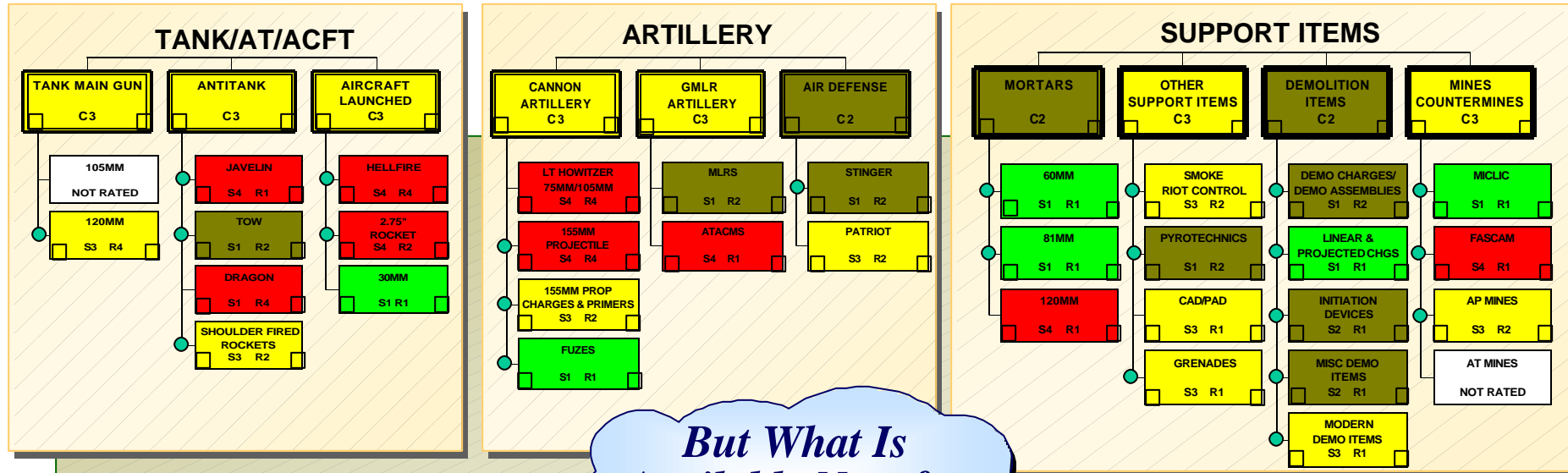
# Standards in Training Commission (STRAC) Requirements - Review Process



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# READINESS

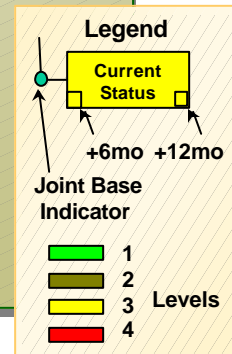
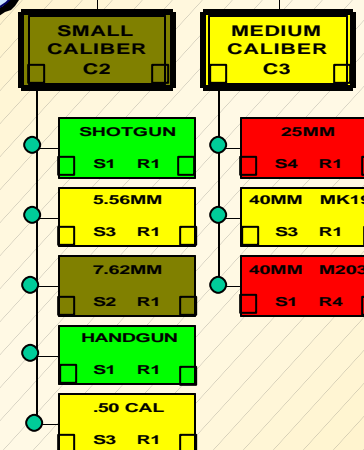
... Never Had a "USR" for Ammo Until NOW



*But What Is Available Now for the WarFight*

- CSA to See Monthly
- Keyed to Platform
- Shows 6 and 12 Month Trend
- Includes All Munition Families

## SMALL/MEDIUM CAL



- NOTIONAL DATA -

# Introducing the Ammunition Available Supply Rate (ASR)

***CURRENT***

## **Required Supply Rate:**

- \* The amount of ammo a commander estimates will be needed to sustain tactical operations - without restriction - over a specified period of time.  
Total Rounds = WD x expenditure rate x days.
- \* Perfect world scenario in a world where missions and priorities change frequently.

## **Controlled Supply Rate:**

- \* Rate of ammo that can be issued - given availability, facilities and transportation. Rate can be by unit, individual, weapon or vehicle per day. Commander must decide how ammo is distributed internally. Resupply based on execution.
- \* Live with what you get philosophy.

***FUTURE***

***ASR :***

- \* TOTAL amount of serviceable ammunition on hand at any one time anywhere from the Production Base to the Shooter
- \* Influenced by Production Capacity, Sources, Dollars, Distribution Capability and Time
- \* New concept for managing ammunition - Reality Based



# Why Use An ASR?

- ✳ *Increase level of certainty on what is available between soldier and production line and existing War Reserve stocks.*
- ✳ *Factors in maintenance - What and When items being returned to serviceable condition.*
- ✳ *Real time information with the capability to track and re-direct ammunition at nodes along the way.*
- ✳ *Pinpoint arrival date further out.*
- ✳ *Different for each scenario; but predictive*

*ASR will provide Ammunition Managers, Commanders and Senior Leaders with information affecting ammunition availability - - - And the ability to make more choices earlier in the planning process*



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# Requirements Have to Be Expressed in Warfighting Terms



"Readiness"....  
"Available Supply Rate"

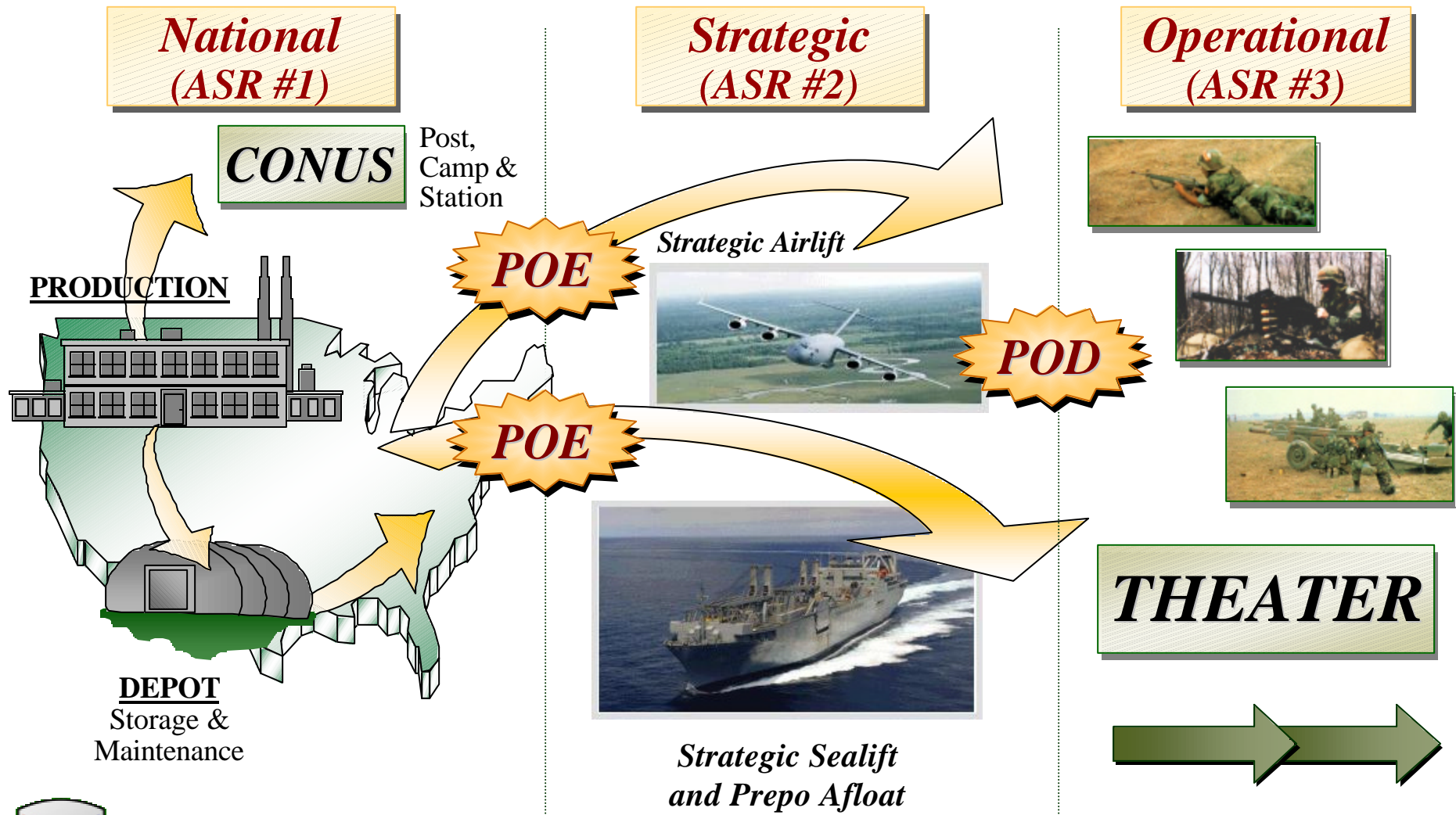


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# Ammunition Distribution

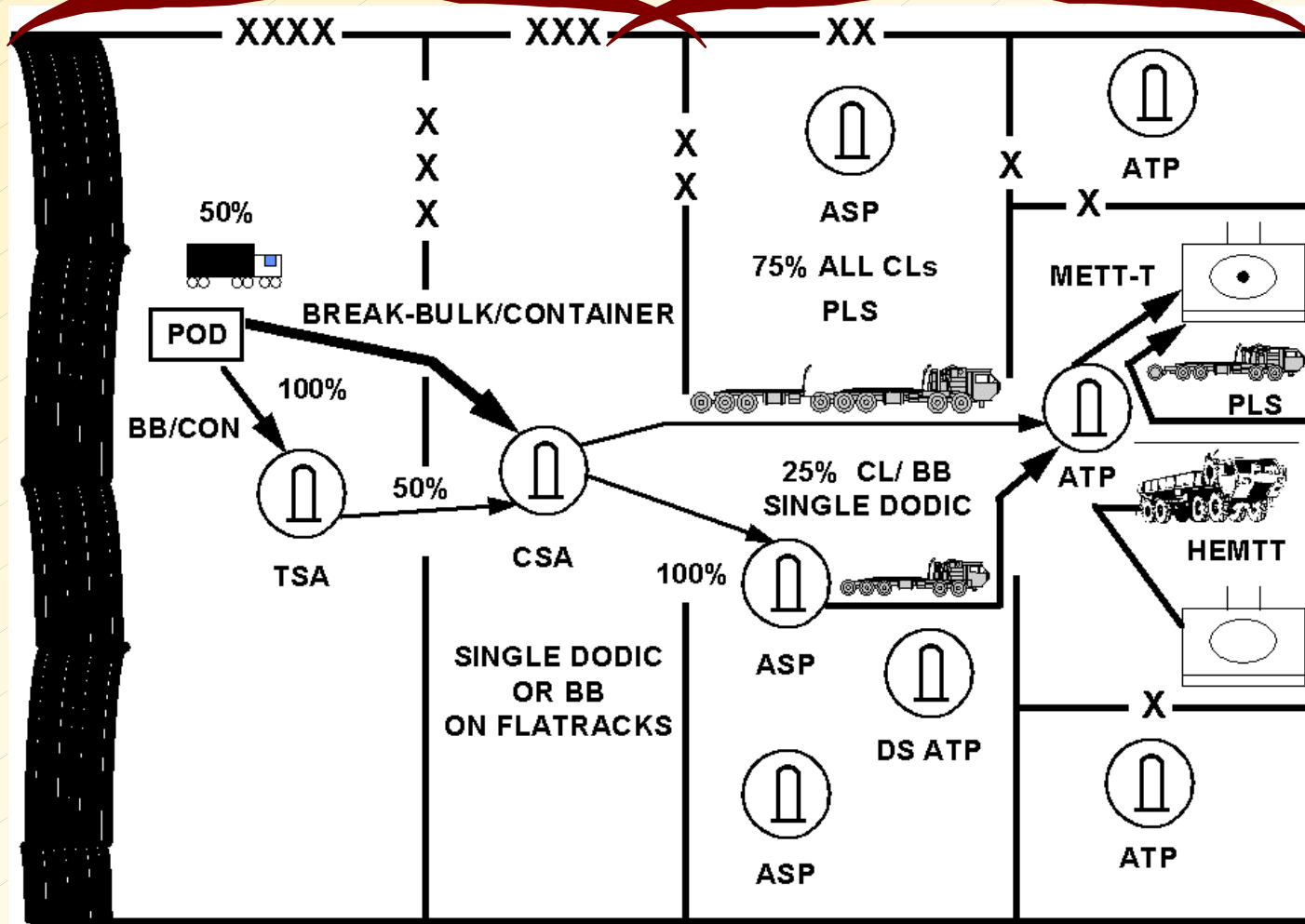
*Once Bought - How Does It Flow . . .*



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# Operational and Tactical



*Flow of munitions in a theater of operations*



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# ASR Considerations : Ammo Flow

- ★ **Production Base:** *Currently composed of 14 Plants and Numerous Commercial Contractors - What/How Much/How Fast?*
  - ★ **Depots:** *Stores, receives, ships, and transports munitions to the POEs - How Much/How Fast?*
  - ★ **Maintenance:** *- What/What Condition/How Fast?*
  - ★ **Air and Sea Ports of Debarkation:** *Offloading, temporary storage, loading and shipping - Priority? Numbers Dedicated?*
  - ★ **Theater Distribution:** *From POD to In-theater storage - Priority; Capacity?*
- 



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# ASR Considerations : Ammo Flow

## (Continued)

★ **Theater Support Areas:** *Storage in the COMMZ. Need line haul and rail capabilities to complement road network and port facility.*

*Hundreds of Thousands of Tons*

★ **Corps Support Areas:** *Primary source of high tonnage ammo for Corps and Division assets. 7 to 15 DOS - depending on OPTEMPO of conflict.*

*Tens of Thousands of Tons*

★ **Ammunition Supply Points:** *1 to 3 DOS. Support division rear and ATPs.*

*Thousands of Tons*

★ **Ammunition Transfer Points:** *Located in Brigade Support Area on Line Haul/PLS.*

*Hundreds of Tons*



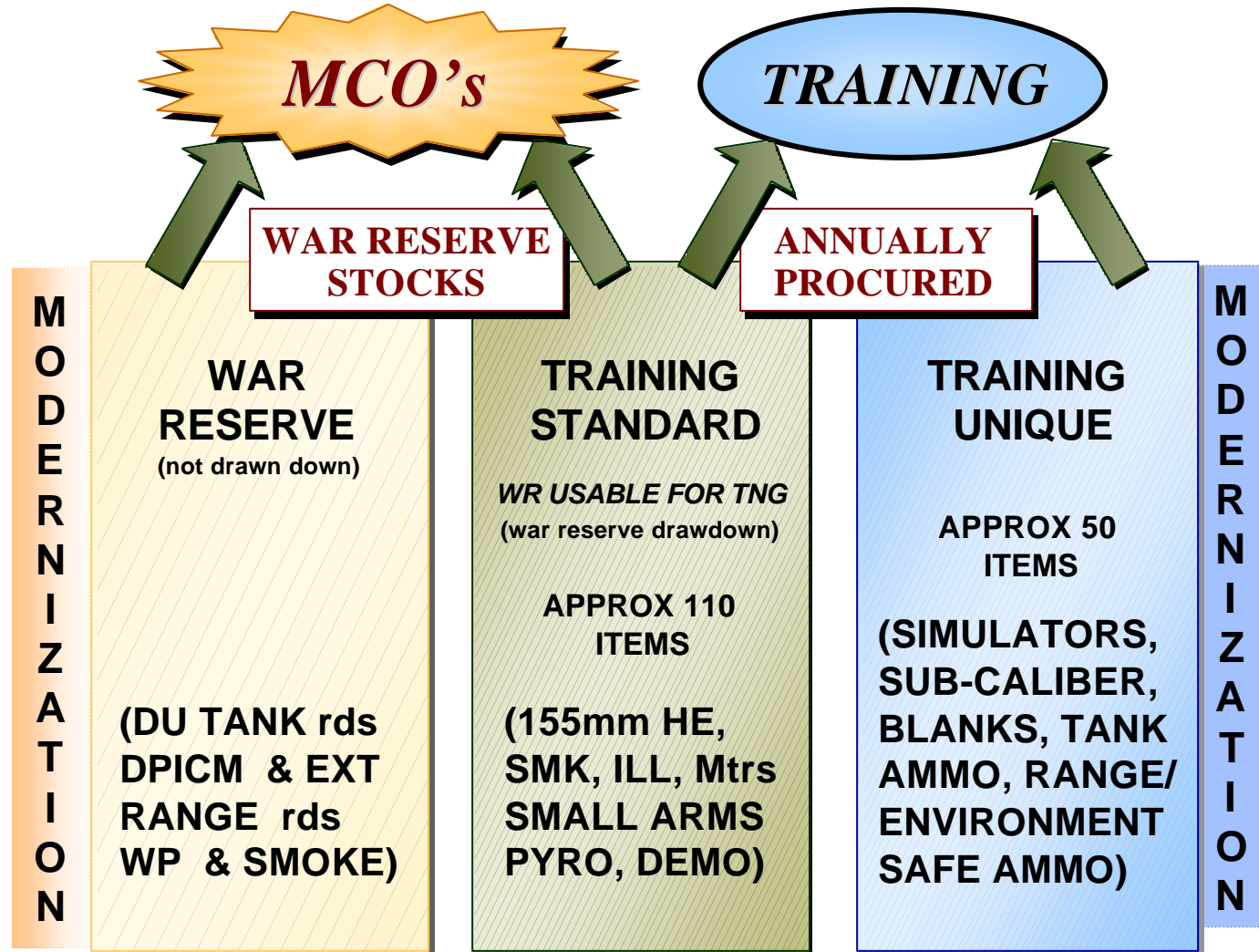
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# What Should Be Included ?

## *Categories of Ammunition*



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# NATIONAL LEVEL:

## Factors Which Can Influence the ASR:

- ✱ *What We Buy & When We Buy it*
- ✱ *When we contract to have the ammo delivered - Acceleration capability*
- ✱ *How fast we fix technical problems affecting production*
- ✱ *Acquisition Decisions - Recap, Contract, Use of Government owned facilities Vs. Commercial source*
- ✱ *What we sell and when we sell it - FMS*
- ✱ *Training Strategies . . . e.g. Simulators*
- ✱ *Transportation*

*Bottom line - - - **DOLLARS**, Capacity, Sources*



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# OPERATIONAL LEVEL: Factors Which Can Influence the ASR

- ✱ *What We Shoot and When We Shoot It*
- ✱ *How Much?*
- ✱ *What we report and when we report it (TAMIS-R)*
- ✱ *Distribution: Strategic and Operational*
- ✱ *Basic Load Configurations/Changes*

*Warfighting Operations. . . Battlefield Distribution*



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# Good IT Automation Is the Key to Developing / Managing the ASR

## ★ *Production Base (National Level Manager) needs real time information on:*

- Shortages and Impacts - affecting C1 Readiness
- Expenditures and Forecasting
- Basic Load changes
- Organic Transportation/Storage assets and capabilities/limitations



## ★ *Tactical Leadership needs real time information on:*

- Delivery Schedules/pipeline
- Get well dates for technical/suspension problems
- Lead time by quantity and time
- Anticipated bottlenecks/choke points
- **What, When, How Much, How Long ?**



## ... In Simple, Understandable Terms



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# IT Automation : How Operational Ammunition Managers Talk Today

★ ***Standard Army Ammunition System - Modernization (SAAS-MOD)*** - *an automated system which integrates the Theater, Corps and ASP information into a single software baseline. Interfaces with:*

- SAAS to SAAS
- Commodity Command Standard System
- Logistics Support Activity
- WARS
- Standard Property Book
- DA Movement Management System



***Not Good Enough***



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# Making the ASR Come to Life . . .

- ★ *Automation Systems - which link combat support systems with production schedules; Integrated automation*
- ★ *Pinpoint locating/redirecting of ammo - barcoding of pallets*
- ★ *Info System . . . Better Consumption*
- ★ *Info System . . . Better Distribution*
- ★ *Info System . . . Ammo Requirements more Knowable and Predictable*
- ★ *Info System . . . National Level / Production to be more proactive / responsive*
- ★ *Better Tactical Planning and Execution*
- ★ *Packaging*
- ★ *Better War Planning Management and Execution . . .*

*Dollars, Capacity, Sources*



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# What Is Still Needed Making ASR More Plausible...

*The Way  
Ahead*

- \* Need a software system which links every player at every node in the distribution system - key is automation and determining what information is needed to affect decision-making - - A part of WLMP & GCSS-A, not a standalone system*
- \* Need software/automation to integrate “Joint Availability” and EDCA responsibilities*
- \* Need greater tracking capability down to the bullet - AIT, etc. Study commercial application e.g. FEDEX*
- \* Determine how to capitalize on GPS with ammo management*



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# In Summary

## *An Available Supply Rate . . .*

### *\* An Innovative Tool . . .*

- To determine right quantity at right place
- Is a new concept for managing ammunition
- Enables a Commander to plan the warfight with greater certainty
- Manages production and distribution at every node from production base to the shooter

### *\* Can Improve Ammunition Management at Every Level . . .*

- **Department**      - *Funding . . . War Planning*
- **National**        - *Stockpile Management*  
                             - *Production and Distribution Management*
- **Strategic**        - *War Planning*  
                             - *Distribution Management*
- **Operational/Tactical**    - *Warfighting Operations*  
                                     - *Ammunition Availability . . .*

***What, How Much, When . . . How Long ?***



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# In Conclusion

*\*A Soldier With NO Ammo Is Just a Tourist*

*\*A Soldier With the WRONG Ammo Will Soon Be a Tourist*

*\*A Soldier With INSUFFICIENT Ammo Will. . .  
Soon Be a Dead Tourist*

**The Objective:**  
***Calibrate Requirements  
and Availability to Provide***

- What Is Required
- When It Is Required
- Where It Is Required
- For As Long As Required



... The ASR Can Help



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*Their Lives Depend on It*



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# THE AMMUNITION AVAILABLE SUPPLY RATE (ASR)



*Bridging the Gap  
between*

*Production Capability and  
Operational Reality*



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